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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,827	01/11/2002	Tomoaki Kurosawa	270/164	8082

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ORRICK, HERRINGTON & SUTCLIFFE, LLP  
IP PROSECUTION DEPARTMENT  
4 PARK PLAZA  
SUITE 1600  
IRVINE, CA 92614-2558

EXAMINER

CHANKONG, DOHM

ART UNIT PAPER NUMBER

2152

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/044,827	Applicant(s) KUROSAWA ET AL.	
	Examiner Dohm Chankong	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 30-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### DETAILED ACTION

1> This action is in response to Applicant's request for continued examination. Claim 29 is cancelled. Claims 30-34 are presented for further examination.

2> This is a non-final rejection.

#### *Continued Examination Under 37 CFR 1.114*

3> A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1.9.2006 has been entered.

#### *Response to Arguments*

4> Applicant's arguments with respect to claims 30-34 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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5> Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Admitted Prior Art by Applicant (See MPEP 2129) [AAPA] in view of Harrington et al. (US 6,289,012) ["Harrington"], in further view of Yosef et al, U.S Patent Publication No. 2005|0259682 ["Yosef"].

6> In regards to claim 30 AAPA discloses an apparatus comprising:

- a first information receiving apparatus (fig. 5- CLIENT (1)) having a first group address (fig. 5 - INF1, Pg 7 lines 1-5),
- a second information receiving apparatus (fig. 5- CLIENT (2) ) having a second group address (fig. 5 - INF2, Pg 7 Para [0025] lines 1-3), and
- an information transmitting apparatus (fig. 5 - SERVER) in communication with the first and second information receiving apparatus via a network (Pg 1. [000] lines 1-4, Pg 6 [0023] lines 3-4, Pg 7 [0025] lines 1-2),
- the information transmitting apparatus (fig. 5 - SERVER) being arranged and constructed to
  - (1) transmit via the network two or more blocks of data subdivided from a designated information together with the first group address for the first information receiving apparatus in response to receiving a request to transmit the designated information from the first information receiving apparatus (Pg 7 [0024] lines 1-4),

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- (3) transmit via the network one or more blocks of data already transmitted to the first receiving apparatus with the second group address (Pg 7 [0026] lines 1-4), wherein the first (i.e. Client (1)) and second (Client (2)) information receiving apparatus are further arranged and constructed to send the request to transmit the designated information to the information transmitting apparatus (fig 5-REQ<sub>1</sub> dotted arrow toward SERVER, fig. 5-REQ<sub>2</sub> dotted line toward SERVER)), receive blocks of data via the network (Solid arrow lines from X<sub>1</sub> to X<sub>4</sub> at the server to Client (2), Solid arrow lines from X<sub>1</sub>-X<sub>4</sub> at the server to Client (1)), wherein the group address of the received blocks of data are identical to the respective group addresses (Client(1): Pg.7 [0024] lines 2-4, Client (2):Pg 7 [0026] lines 5-6).

AAPA discloses wherein the first information receiving apparatus is further arranged and constructed to transmit a retransmission request to retransmit one or more selected blocks of data [0012, 0027, 0036] but does not disclose selecting a suitable communication protocol and retransmitting the selected blocks of data in accordance with the communication protocol.

AAPA also fails to disclose:

- the information transmitting apparatus (fig. 5 - SERVER) being arranged and constructed to
  - (2) transmit via the network one or more blocks of data that have not yet been transmitted to the first information receiving apparatus with the first group address and the second group address for the second information

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receiving apparatus, in response to receiving a request to transmit the designated information from the second information receiving apparatus prior to transmitting all blocks of data, which contain the designated information, to the first information receiving apparatus.

7> As discussed, AAPA discusses communication protocols with retransmission capability but does not disclose selecting a protocol and retransmitting based on the selected protocol.

In the same field of invention, Yosef is directed towards an invention for delivering blocks of data to a plurality of clients at different rates over a network [0013, 0304]. Yosef discloses in response to a retransmission request, selecting a protocol (multicast or unicast) and retransmitting data based on the selected protocol [0040, 0188]. It would have been obvious to one of ordinary skill in the art to modify AAPA's retransmission means to include Yosef's selection capability. The selection capability provides the ability to deliver the missing blocks of data based on current conditions of the network, thereby improving the efficacy of the retransmission [see Yosef, 0188].

8> Harrington et al. discloses a distributed system that concurrently transmits a series of packets (blocks of data) to a plurality of users in response to download requests from users on a network (col. 3 lines 45-53). The packets consist of download items requested by users, which are then divided up in to segments (blocks of data) and then packetized (col. 6 lines

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44-47). Furthermore since the item is prepackaged, packets are be copied in any particular order (col. 7 lines 40-54).

Harrington et al. teaches the systems ability to store an item for downloading to a plurality of users using a single memory buffer for the item. The system then transmits the item as a series of packets on demand to each of the plurality of users, without requiring that the download process for each user commence at the same time, or that the same packet be sent at the same time to each of the users. Thus, a great number of concurrent downloads can be supported without a corresponding increase in the amount of memory that would be expected in the limitations of multicasting (col. 1 lines 45-53). In figure 6-8, Harrington et al. discloses the process of sending data blocks to concurrent users 1-3 (col. 6 lines 56-62). A server download manager (fig 5-507) controls the flow of data blocks for each user in a time-share fashion by initiating and controlling copying of download packets to a network communication buffer (fig 5-515, col. 7 lines 15-19). Depending on the number of users making a request for item, the system often switches between users (i.e. first and second users). In this manner different packets of data can be sent to multiple users concurrently without requiring that multiple copies of the item be made or multiple buffers maintained and concurrent downloading of the same item to multiple users can occur when demanded by the user and not at any prescheduled time as with network multitasking. In this respect, a second user requesting for a download item, some time after a first user has requested the same download item, will receive packets, which are being transmitted to the first use at the same time. In addition, unlike multicasting, one user's problems do not impact download times for other users (col. 7 lines 40-54).

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Harrington et al. teaches the user need not acknowledge receipt of each packet and is rather able to wait to the conclusion of a transmission of all the packets to specify which packets did not make it and need to be resent. Without having to acknowledge receipt of each packet downloading of items occurs faster and imposes less process and memory overhead on the server when downloading concurrently to multiple users (col. 7 lines 55-58). At the end of a transmission the second user is able to determine the missing data blocks by performing a reliability check process as taught by Harrington et al. (fig 14-#1401-1413, fig. 15). During the process a packet identifier/index is read from the packet header (information fig 7-#709, col. 10 lines 61-62) and is used to detect missing blocks of data and prepare request from a server for missing data (Harrington col. 11 lines 26-44) and thus obtain the remaining blocks of data the were previously sent to a first user.

Admitted Prior Art by Applicant and Harrington et al. are analogous because they are from the similar problem solving area, that is reducing processing time and increasing efficiency for transmitting data in a client/server network and are the similar fields of invention, that is Client/Server communications in a network where data is transmitted and received.

It would be obvious to one of ordinary skill in the art at the time of the invention to modify the Admitted Prior Art by Applicant by transmitting the same blocks of data to a second user who request the same item as a first user and then send the remaining blocks only to a second user, as taught by Harrington et al. in order to eliminate the need for transmitted information to be scheduled and thus allow the transmittal of the same item to multiple users (col. 5 lines 42-44) requesting the information at different times in order to



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support a computing systems ability, in particular a server's ability, to support greater levels of concurrency when downloading large items, especially when items are being download to users on demand and provide a system that is more scalable in terms of the number of clients that can be supported without significant degradation in performance, and is thus better able to handle unpredictable levels for demand for service (See Harrington et al. col. 3 lines 16-34).

9> In regards to claim 31, AAPA discloses cyclically transmit the blocks of data subdivided from the designated information apparatus in a predetermined sequence, when the information transmitting apparatus receives another request to transmit the designated information from another information receiving apparatus prior to transmitting all blocks of data subdivided from the designated information (Pg. 7 [0025] lines 1-3, fig. 5-REQST<sub>2</sub> dotted line toward server prior to time t<sub>2</sub>).

AAPA in fig 5, shows cyclical transmission of subdivided blocks from information apparatus in a predetermined sequence, with the blocks X<sub>1</sub> to X<sub>4</sub> transmitted to a Client(1) at a time t<sub>1</sub> and then the same blocks X<sub>1</sub> to X<sub>4</sub> transmitted to a Client (2) an another time t<sub>2</sub>. "X<sub>n</sub>" represents the predetermined sequence in fig. 5, where n = 1 - 4, "n" is the sequence.

10> As to claims 32 and 34, AAPA not disclose selecting the communication protocol based on a status of bandwidth utilization, whereby the protocol is selected from a group consisting of an unicasting protocol and a multicasting protocol.

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11> Yosef discloses selecting an appropriate communication protocol based on bandwidth availability within the network, whereby the protocol is selected from a group consisting of an unicasting protocol and a multicasting protocol. [0188]. It would have been obvious to one of ordinary skill in the art to modify AAPA's retransmission means to include Yosef's selection capability. The selection capability provides the ability to deliver the missing blocks of data based on current conditions of the network, thereby improving the efficacy of the retransmission [see Yosef, 0188].

12> Claim 33 is rejected under 35 U.S.C § 103(a) as being unpatentable over AAPA, Harrington and Yosef, in further view of Tantawy et al, U.S Patent No. 6,597,891 ["Tantawy"].

13> As to claim 33, AAPA and Yosef do not expressly disclose selecting a protocol based on the number of blocks to be transmitted.

14> Tantawy discloses cyclically transmitting blocks of data [column 5 «lines 16-27»]. Tantawy also discloses selecting a particular communication protocol based on the number of blocks to be transmitted [column 5 «lines 28-37»]. Tantawy discloses that the benefit of such a feature is that it is faster to transmit blocks of data when the number is low through certain protocols [unicast] as opposed to others [broadcast]. Thus, it would have been obvious to one of ordinary skill in the art to modify AAPA and Yosef to include Tantawy's additional

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feature such that when the number of blocks to be transmitted is small, an appropriate protocol is selected to insure faster delivery of the blocks to clients.

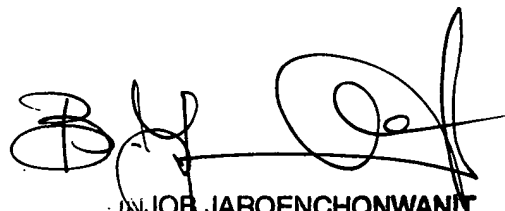
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is 571.272.3942. The examiner can normally be reached on Monday-Thursday [7:00 AM to 5:00 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571.272.3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC



BUNJOB JAROENCHONWANIT  
SUPERVISORY PATENT EXAMINER